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Results of the 7th sampling (November 19th) of the First-Stubble and 3rd sampling (November 16th) of the Plant-Cane Sugarcane Maturity Tests at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm at Schriever, LA are attached. The study is designed to examine the natural ripening of these crops in 2-wk (first stubble) and 4-wk (plant cane) increments, and compare the results for the same harvest dates over a 5-yr period (2003 – 2007); consequently, a glyphosate-containing ripener is not applied. Samples consist of 15, hand-cut stalks of clean, trash-free and properly topped cane from each of four replications. **When mechanically harvested, one can expect TRS/TC levels to be 10 to 20% lower as a result of additional trash in the cane.** The first-stubble study includes eight released Louisiana varieties: LCP 85-384, HoCP 85-845, HoCP 91-555, Ho 95-988, HoCP 96-540, L 97-128, L 99-226, and L 99-233 and the newly released variety HoCP 00-950. The plant-cane study includes the variety L 01-283 that is a candidate for release in 2008, but does not include the variety L 99-226 that was accidentally omitted at planting. The variety HoCP 85-845 is no longer being planted in our maturity studies as the acreage planted to this variety is declining.

The Ardoyne Farm has received no rainfall since the November 7th sampling.

**First-stubble.** Very little change in stalk height, weight, and density has occurred since the November 7th sampling when the average of the six varieties with major plantings (core varieties) is considered. Over all, stalk heights and weights of the core varieties are average when one considers the previous four years. The newly released variety, HoCP 00-950, continues to have some of the shortest stalks of the varieties in this test, but its stalks are heavier than LCP 85-384, HoCP 91-555, and L 99-233.

The cool and sunny days continue to be conducive to the crop's natural ripening although the pace is slowing as expected for this time of year. The average theoretical recoverable sugar (TRS) level for the core varieties increased by 18 lbs/TC for the 14-day sampling interval. The biggest increases in TRS were with Ho 95-988, HoCP 96-540, and L 99-226. TRS levels for the core varieties would now be considered normal for this time of year. Of the six core varieties, L 97-128 (303 lbs), HoCP 91-555 (296 lbs), and L 99-226 have the highest TRS levels. The newly released HoCP 00-950 has the highest TRS/TC level at 326 lbs/TC, which is 23 and 49 lbs/TC higher than L 97-128 and HoCP 96-540, respectively.

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**Plant-cane.** Stalk heights and weights for the six core varieties included for the last five years are, as expected, greater than the first-stubble stalk heights and weights, and continue to be as high as in 2006 and higher than in the three years prior (2003 – 2005). On average, the stalks increased in height by 5 in. and weight by 0.1 lbs during the 18-day sampling interval. Increases in height of 5 in. or more were obtained with LCP 85-384, HoCP 91-555, HoCP 96-540, and L 97-128.

Brix, sucrose, and purity percentages in the plant-cane crop are all lower than in previous years and significantly less than the percentages obtained in the first-stubble test. As a result, TRS levels for the core varieties are nearly 50 lbs/TC lower than in previous years for this sampling time. The plant-cane crop seems to be trying to catch up with the favorable weather as increases in recoverable sugar for the 24-day sampling interval are higher (41 lbs) than in previous years. Like the first-stubble, HoCP 00-950 has the highest TRS level at 279 lbs/TC, which is 44 and 58 lbs/TC higher than L 97-128 and HoCP 96-540, respectively.

The eighth sampling of the maturity test is scheduled for December 3rd.

**Reminder.** If you would like to discontinue your receipt of these reports or if you know of individuals who would like to begin receiving this information in 2007, please contact Mrs. Sandy Roberts by email (sroberts@srrc.ars.usda.gov). Emailing insures address accuracy. Information regarding USDA research activities can also be found on our website: www.ars.usda.gov/msa/srrc/sru .

***Maturity reports are prepared by Dr. Ed Richard of the USDA-ARS Sugarcane Research Lab.***

## *Happy Thanksgiving!!!*

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, November 19, 2007[1].

| Variety | Year | Stalk[2] | | | | Normal juice[3] | | | Sugar yield | Previous sample date[4] | TRS change from previous sample |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Wt. | Lh. | Dia. | Density | Bx. | Su. | Pu. | TRS | TRS | |
| | | (lb.) | (in.) | (in.) | (g/cm3) | (%) | (%) | (%) | (lb.) | (lb.) | (lb.) |
| LCP 85-384 | 2007 | 1.7 | 96 | 0.70 | 1.24 | 17.97 | 15.32 | 85.23 | 285.3 | 270.0 | 15.3 |
| | 2006 | 2.0 | 101 | 0.81 | 1.13 | 18.13 | 15.64 | 86.28 | 293.0 | 277.6 | 15.4 |
| | 2005 | 1.7 | 86 | 0.77 | 1.12 | 18.46 | 15.74 | 85.26 | 293.3 | 279.4 | 13.9 |
| | 2004 | 1.8 | 101 | 0.73 | 1.35 | 17.42 | 14.89 | 85.50 | 277.9 | 271.8 | 6.1 |
| | 2003 | 1.7 | 89 | --- | --- | 18.79 | 16.14 | 85.88 | 301.7 | 268.4 | 33.3 |
| HoCP 85-845 | 2007 | 2.1 | 96 | 0.82 | 1.14 | 17.75 | 15.14 | 85.27 | 282.2 | 272.4 | 9.8 |
| | 2006 | 2.4 | 106 | 0.87 | 1.08 | 17.77 | 15.22 | 85.60 | 284.0 | 275.5 | 8.5 |
| | 2005 | 2.0 | 92 | 0.80 | 1.15 | 17.60 | 14.78 | 83.97 | 273.4 | 271.5 | 1.9 |
| | 2004 | 2.2 | 103 | 0.80 | 1.22 | 16.93 | 14.31 | 84.48 | 265.5 | 273.1 | -7.6 |
| | 2003 | 1.8 | 85 | --- | --- | 18.70 | 16.05 | 85.82 | 300.0 | 279.6 | 20.4 |
| HoCP 91-555 | 2007 | 1.9 | 103 | 0.75 | 1.22 | 18.70 | 16.03 | 85.70 | 296.4 | 278.3 | 18.1 |
| | 2006 | 1.8 | 95 | 0.78 | 1.11 | 18.75 | 16.02 | 85.42 | 295.8 | 281.4 | 14.4 |
| | 2005 | 1.7 | 90 | 0.74 | 1.17 | 18.95 | 16.06 | 84.76 | 295.5 | 275.4 | 20.1 |
| | 2004 | 2.0 | 106 | 0.78 | 1.19 | 18.02 | 15.32 | 85.02 | 282.2 | 283.8 | -1.6 |
| | 2003 | 1.7 | 87 | --- | --- | 19.74 | 16.94 | 85.80 | 313.4 | 287.4 | 26.0 |
| Ho 95-988 | 2007 | 2.4 | 103 | 0.87 | 1.12 | 17.82 | 15.33 | 86.02 | 286.7 | 250.1 | 36.6 |
| | 2006 | 2.4 | 100 | 0.87 | 1.15 | 17.93 | 15.40 | 85.91 | 288.0 | 279.4 | 8.6 |
| | 2005 | 2.1 | 89 | 0.87 | 1.02 | 17.82 | 15.01 | 84.21 | 278.0 | 268.1 | 9.9 |
| | 2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HoCP 96-540 | 2007 | 2.2 | 103 | 0.79 | 1.19 | 17.69 | 15.05 | 85.04 | 277.3 | 246.2 | 31.1 |
| | 2006 | 2.4 | 103 | 0.86 | 1.18 | 17.84 | 15.15 | 84.89 | 284.4 | 270.7 | 13.7 |
| | 2005 | 2.3 | 94 | 0.86 | 1.16 | 18.13 | 15.42 | 85.05 | 289.8 | 265.9 | 23.9 |
| | 2004 | 2.5 | 107 | 0.81 | 1.46 | 17.13 | 14.35 | 83.75 | 267.7 | 260.1 | 7.6 |
| | 2003 | 2.1 | 96 | --- | --- | 18.84 | 16.07 | 85.33 | 302.5 | 271.6 | 30.9 |
| L 97-128 | 2007 | 2.4 | 110 | 0.79 | 1.20 | 18.80 | 16.20 | 85.78 | 302.6 | 278.9 | 23.7 |
| | 2006 | 2.6 | 114 | 0.87 | 1.09 | 18.44 | 15.76 | 85.46 | 296.7 | 284.4 | 12.3 |
| | 2005 | 1.9 | 93 | 0.78 | 1.11 | 18.57 | 15.54 | 83.66 | 289.8 | 277.7 | 12.1 |
| | 2004 | 2.5 | 113 | 0.80 | 1.30 | 18.11 | 15.33 | 84.67 | 287.5 | 287.9 | -0.4 |
| | 2003 | 1.9 | 98 | --- | --- | 20.05 | 17.31 | 86.31 | 327.4 | 305.7 | 21.7 |
| L 99-226 | 2007 | 2.8 | 111 | 0.87 | 1.14 | 18.35 | 15.74 | 85.76 | 296.9 | 267.4 | 29.5 |
| | 2006 | 2.8 | 110 | 0.91 | 1.11 | 18.70 | 16.17 | 86.45 | 306.1 | 291.8 | 14.3 |
| | 2005 | 2.3 | 100 | 0.84 | 1.16 | 18.66 | 16.02 | 85.85 | 302.3 | 287.4 | 14.9 |
| | 2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| L 99-233 | 2007 | 1.8 | 104 | 0.72 | 1.12 | 17.69 | 14.93 | 84.37 | 274.1 | 259.1 | 15.0 |
| | 2006 | 2.1 | 114 | 0.82 | 1.01 | 18.17 | 15.57 | 85.67 | 290.7 | 268.1 | 22.6 |
| | 2005 | 1.8 | 101 | 0.73 | 1.15 | 18.00 | 15.16 | 84.22 | 280.8 | 268.2 | 12.6 |
| | 2004 | 2.0 | 114 | 0.73 | 1.31 | 17.15 | 14.22 | 82.83 | 261.5 | 268.8 | -7.3 |
| (Cont'd) | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

| Variety | Year | Stalk[2] | | | | Normal juice[3] | | | Sugar yield | Previous sample date[4] | TRS change from previous sample |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Wt. | Lh. | Dia. | Density | Bx. | Su. | Pu. | TRS | TRS | |
| | | (lb.) | (in.) | (in.) | (g/cm3) | (%) | (%) | (%) | (lb.) | (lb.) | (lb.) |
| HoCP 00-950 | 2007 | 2.1 | 97 | 0.81 | 1.18 | 19.48 | 16.97 | 87.13 | 325.5 | 304.1 | 21.4 |
| | 2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Averages[5] | 2007 | 2.0 | 102 | 0.76 | 1.19 | 18.10 | 15.45 | 85.23 | 286.3 | 267.5 | 18.8 |
| | 2006 | 2.2 | 101 | 0.83 | 1.13 | 18.12 | 15.51 | 85.55 | 289.3 | 276.3 | 13.0 |
| | 2005 | 1.9 | 93 | 0.79 | 1.14 | 18.12 | 15.30 | 84.46 | 284.2 | 271.1 | 13.2 |
| | 2004 | 2.3 | 106 | 0.80 | 1.29 | 17.37 | 14.72 | 84.74 | 273.9 | 273.9 | 0.0 |
| | 2003 | 1.9 | 90 | --- | --- | 19.11 | 16.44 | 86.03 | 308.0 | 279.7 | 28.4 |

[1] Data for each parameter represents the average of four replications of 15 stalks each.

[2] Stalk diameter and density based on a subsample consisting of 8 randomly selected stalks from the 15-stalk sample of each rep.

[3] Brix factor = .8854; Sucrose factor = .8105.

[4] Previous sample date was November 5, 2007.

[5] Averages are based only on varieties included in previous year's first-stubble maturity study (LCP 85-384, HoCP 85-845, HoCP 91-555, HoCP 96-540, L 97-128, and, L 99-233).

Maturity studies on plant-cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, November 16, 2007[1].

| Variety | Year | Stalk[2] | | | | Normal juice[3] | | | Sugar yield | Previous sample date[4] | TRS change from previous sample |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Wt. | Lh. | Dia. | Density | Bx. | Su. | Pu. | TRS | TRS | |
| | | (lb.) | (in.) | (in.) | (g/cm3) | (%) | (%) | (%) | (lb.) | (lb.) | (lb.) |
| LCP 85-384 | 2007 | 2.3 | 106 | 0.79 | 1.27 | 15.96 | 13.08 | 81.93 | 239.1 | 197.8 | 41.3 |
| | 2006 | 1.9 | 102 | 0.79 | 1.11 | 17.73 | 15.15 | 85.46 | 282.6 | 262.3 | 20.3 |
| | 2005 | 1.8 | 86 | 0.80 | 1.05 | 18.59 | 15.84 | 85.20 | 295.1 | 254.7 | 40.4 |
| | 2004 | 2.0 | 98 | 0.76 | 1.21 | 17.38 | 14.68 | 84.45 | 272.3 | 264.2 | 8.1 |
| | 2003 | 1.9 | 97 | --- | --- | 18.11 | 15.44 | 85.29 | 287.8 | 246.0 | 41.8 |
| HoCP 91-555 | 2007 | 2.6 | 112 | 0.86 | 1.10 | 16.36 | 13.11 | 80.10 | 234.9 | 180.2 | 54.7 |
| | 2006 | 2.2 | 109 | 0.81 | 1.10 | 19.15 | 16.50 | 86.20 | 305.9 | 285.5 | 20.4 |
| | 2005 | 1.8 | 85 | 0.82 | 1.06 | 19.74 | 16.78 | 85.00 | 309.2 | 274.9 | 34.2 |
| | 2004 | 2.0 | 103 | 0.77 | 1.14 | 18.33 | 15.59 | 85.08 | 287.4 | 264.8 | 22.6 |
| | 2003 | 2.0 | 96 | --- | --- | 18.86 | 16.02 | 84.94 | 295.0 | 254.3 | 40.7 |
| Ho 95-988 | 2007 | 2.8 | 106 | 0.90 | 1.19 | 16.18 | 13.41 | 81.17 | 239.2 | 208.9 | 30.3 |
| | 2006 | 2.7 | 109 | 0.90 | 1.14 | 18.19 | 15.65 | 85.99 | 292.7 | 270.1 | 22.6 |
| | 2005 | 2.1 | 84 | 0.91 | 1.02 | 18.48 | 15.67 | 84.76 | 291.1 | 248.4 | 42.8 |
| | 2004 | 2.5 | 101 | 0.86 | 1.15 | 17.15 | 14.46 | 84.28 | 268.0 | 232.6 | 35.4 |
| | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HoCP 96-540 | 2007 | 2.9 | 115 | 0.86 | 1.20 | 15.47 | 12.20 | 78.79 | 220.9 | 176.3 | 44.6 |
| | 2006 | 3.0 | 119 | 0.94 | 1.03 | 17.86 | 15.25 | 85.37 | 287.0 | 252.2 | 34.8 |
| | 2005 | 2.2 | 87 | 0.90 | 1.05 | 18.02 | 15.09 | 83.75 | 281.6 | 235.8 | 45.8 |
| | 2004 | 2.3 | 102 | 0.81 | 1.20 | 17.62 | 14.79 | 83.91 | 276.2 | 248.4 | 27.8 |
| | 2003 | 2.3 | 101 | --- | --- | 18.02 | 14.88 | 82.57 | 275.7 | 248.5 | 27.2 |
| L 97-128 | 2007 | 2.5 | 120 | 0.82 | 1.08 | 15.92 | 12.84 | 80.64 | 235.3 | 204.5 | 30.8 |
| | 2006 | 2.8 | 119 | 0.90 | 1.06 | 18.31 | 15.52 | 84.78 | 288.5 | 275.4 | 13.1 |
| | 2005 | 2.3 | 96 | 0.87 | 1.06 | 18.95 | 15.82 | 83.51 | 294.9 | 268.3 | 26.6 |
| | 2004 | 2.4 | 111 | 0.78 | 1.29 | 18.68 | 15.91 | 85.17 | 299.3 | 289.0 | 10.3 |
| | 2003 | 2.2 | 101 | --- | --- | 18.59 | 15.76 | 84.78 | 295.9 | 255.3 | 40.6 |
| L 99-233 | 2007 | 2.2 | 115 | 0.76 | 1.16 | 16.65 | 13.61 | 81.74 | 246.2 | 199.4 | 46.8 |
| | 2006 | 2.2 | 118 | 0.82 | 0.95 | 18.33 | 15.73 | 85.79 | 291.0 | 272.4 | 18.6 |
| | 2005 | 1.7 | 95 | 0.79 | 0.97 | 18.31 | 15.48 | 84.58 | 287.4 | 268.2 | 19.3 |
| | 2004 | 1.9 | 119 | 0.73 | 1.13 | 18.19 | 15.50 | 85.17 | 288.7 | 261.6 | 27.1 |
| | 2003 | 2.1 | 115 | --- | --- | 17.69 | 14.89 | 84.18 | 275.8 | 240.0 | 35.8 |
| HoCP 00-950 | 2007 | 2.5 | 103 | 0.84 | 1.17 | 17.49 | 14.75 | 84.35 | 278.8 | 236.7 | 42.1 |
| | 2006 | 2.1 | 103 | 0.86 | 1.02 | 19.21 | 16.63 | 86.57 | 318.1 | 305.8 | 12.3 |
| | 2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (Cont'd.) | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

Maturity studies on plant-cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, November 16, 2007[1].

| Variety | Year | Stalk[2] | | | | Normal juice[3] | | | Sugar yield | Previous sample date[4] | TRS change from previous sample |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Wt. | Lh. | Dia. | Density | Bx. | Su. | Pu. | TRS | TRS | |
| | | (lb.) | (in.) | (in.) | (g/cm3) | (%) | (%) | (%) | (lb.) | (lb.) | (lb.) |
| L 01-283 | 2007 | 2.4 | 109 | 0.79 | 1.20 | 17.13 | 14.27 | 83.29 | 268.3 | 241.3 | 27.0 |
| | 2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Averages[5] | 2007 | 2.5 | 112 | 0.83 | 1.17 | 16.09 | 13.04 | 80.73 | 235.9 | 194.5 | 41.4 |
| | 2006 | 2.6 | 112 | 0.88 | 1.06 | 18.17 | 15.52 | 85.40 | 289.3 | 269.0 | 20.3 |
| | 2005 | 2.1 | 90 | 0.87 | 1.03 | 18.57 | 15.71 | 84.59 | 291.6 | 257.4 | 35.8 |
| | 2004 | 2.3 | 106 | 0.80 | 1.20 | 17.81 | 15.06 | 84.55 | 280.3 | 260.0 | 20.2 |
| | 2003 | 2.1 | 98 | --- | --- | 18.29 | 15.51 | 84.80 | 288.2 | 250.5 | 36.7 |

[1] Data for each parameter represents the average of four replications of 15 stalks each.

[2] Stalk diameter and density based on a subsample consisting of 8 randomly selected stalks from the 15-stalk sample of each rep.

[3] Brix factor = .8854; Sucrose factor = .8105.

[4] Previous sample date, October 23, 2007.

[5] Averages are based only on varieties included in previous year's plant-cane maturity study (LCP 85-384, HoCP 91-555, Ho 95-988, HoCP 96-540, L97-128, and L99-233).